## Appendix I.

## NONTECHNICAL ABSTRACT

After going through bone marrow transplant to treat their leukemia, some patients develop recurrent disease. These patients can occasionally be brought back into remission by administering white blood cells from the same person that originally donated the bone marrow for their transplant. Unfortunately, these donor white blood cells can have side effects and react against the patient's normal tissues. This process. called graft versus host disease, can kill the patient. This study attempts to use a gene transfer method to alter the donated cells, in order to be able to kill them later if they react against the patient's body.

We have investigated the possibility of placing genes into white blood cells so that they become sensitive to a type of chemotherapy that is not harmful to normal parts of the body. The gene we have selected is called the Herpes Simplex thymidine kinase (HStk) gene, one of many genes contained within the Herpes Simplex Virus. The Herpes simplex virus can be killed by a drug called ganciclovir (GCV). By transferring the HStk gene into the white blood cells, using a disabled mouse virus called a vector, we can convert the cell to be genetically like a herpes virus. The HStk-containing white blood cell can now be killed with GCV. If a patient develops a bad reaction from the donated, gene-altered white blood cells, we can administer GCV to hopefully kill these cells and stop graft versus host disease.